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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,173	06/19/2001	Kenji Matsui	501.40171X00	9931

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EXAMINER

SHAH, NILESH R

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/883,173	Applicant(s) MATSUI ET AL.	
	Examiner Nilesh Shah	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/19/01</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Claims 1-6 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The following claim language is indefinite:

- i. As per claims 1 (lines 8) and 2 (line 8), the “order as determined” of the parallel processes is indefinite because it is not made explicitly clear in the claim language what kind of order is determined, who determines the order or what the order is based on. In addition, the term dummy process is not defined clearly, it is an idle process, or a random process that is placed within the processor? Also the term “in turn” is indefinite because it is not explicitly clear if it is running at the same moment or after the parallel programs are done?

- ii. As per claims 1-4 (line 10), the step of “increments over time” the count value is indefinite because it is not made explicitly clear in the claim language how the increment step takes place, do all counters increment the same way and at the same time. In addition does each processor have the same initial counter value? Does the count value on each processor increase simultaneously?
- iii. As per claim 4 (line 20), the term both is indefinite because it is not made explicitly clear in the claim language what both refers to, the dummy processes and what other processes? Finally the term “out of” is indefinite because it is not made explicitly clear in the claim language if the process is out of the normal queue or some other processor.
- iv. As per claims 5-6 (lines 9-10), the step of “count value” is indefinite because it is not made explicitly clear in the claim language how the count value is determined, count value on each processor increase simultaneously and how is the initial value of the count value.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the

prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Blelloch et al (5,768,594) (hereinafter Blelloch) in view of Temple (5,778,221).

5. As per claim 1, Blelloch teaches the invention substantially as claimed including a parallel processes run scheduling method to be used in an information processing system comprising:

a plurality of processors on which a plurality of parallel programs (Fig. 6 lines 610, col. 19 lines 51-53), each consisting of the equal number of parallel processes (Fig. 5 elements 504, 507, col. 19 lines 41-46) are run in a time-sharing-based multiplex manner (Fig 2a, RT1), the method comprising (col. 4 lines 24-29);

the step of executing allocated parallel processes on each processor in order as determined (col. 15 lines 15-40, col. 18 lines 1-6).

6. Blelloch does not specifically teach the use of a counter.

Temple teaches a counter on each processor that increments over time in synchronization with all other processors and the number of the parallel programs to run concurrently in the system, thereby simultaneously executing the parallel processes of one of the parallel programs in turn on the processors (col. 4 lines 60-67).

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7. It would have been obvious to one skilled in the art at the time of the invention was made to combine the teachings of Temple and Blleloch because Temple's method of counting each instruction would improve Blleloch's system by being able to keep track of the number of instructions, which would improve the accuracy of the system.
8. As per claim 2, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Blleloch teaches a if the number of the parallel processes of a parallel program is less than the number of processors to be used for running the parallel program in the time-sharing-based multiplex manner, (col. 2 lines 57-64, col. 13 lines 52-60 col. 19 lines 24-32). It would have been obvious to one skilled in the art at the time of the invention to include a dummy process to run when there are no more processes within Blleloch and Temple's system in order to make sure all processors are synchronize.
9. As per claim 3, it is rejected for the same reasons as stated in the rejection of claims 1 and 2. In addition, Blleloch teaches a means for generating a queue of processes to execute (col. 3 lines 13-30);
a process queue buffer means for storing the generated process queue (col. 3 lines 13-30);
and
means for determining a process to execute that determine a process to execute out of the processes in the process queue, s (col. 3 lines 13-30, col. 5 lines 10-15, col. 15 lines 15-40).

Temple teaches an integrating count means, the count value of which increment over time in synchronization with all the other processors (col. 4 lines 60-67).

10. As per claim 4, it is rejected for the same reasons as stated in the rejection of claim 3.

11. As per claim 5, it is rejected for the same reasons as stated in the rejection of claims 1 and

2. In addition, Blelloch teaches a computer readable means having a parallel processes run scheduling program recorded thereon, comprising:

a procedure for counting and storing the number of processes to run on each processor, corresponding to the number of parallel programs specified to run in the system(col. 2 lines 57-64, col. 13 lines 52-60 col. 19 lines 24-32);

a procedure for generating and storing a queue of processes specified to be executed on each processor(col. 3 lines 13-30);

a procedure for determining a process to execute out of the processes in the process queue (col. 3 lines 13-30, col. 5 lines 10-15, col. 15 lines 15-40).

12. Claim 6 is rejected based on the same rejection for claim 3 above.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesh Shah whose telephone number is 703-305-8105.

The examiner can normally be reached on 9-5.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, meng An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah
Examiner
Art Unit 2127

NS
July 21,04



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